APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/742,035	12/20/2000	Michelle A. Miller	TI-31029	8683

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EXAMINER
LUU, MATTHEW

ART UNIT	PAPER NUMBER
2672	5

DATE MAILED: 12/31/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

	Application No.	Applicant(s)
Office Action Summary	09/742,035	MILLER ET AL.
	Examiner	Art Unit
	LUU MATTHEW	2672

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE <u>3</u> MONTH(S) FROM
THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on <u>05 March 2001</u>.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) <u>1-19</u> is/are pending in the application.

    4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) <u>1-19</u> is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on <u>05 March 2001</u> is/are: a)☒ accepted or b)☐ objected to by the Examiner.

    Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

    Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. §§ 119 and 120

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

    a)☐ All b)☐ Some * c)☐ None of:

      1.☐ Certified copies of the priority documents have been received.

      2.☐ Certified copies of the priority documents have been received in Application No. _____.

      3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

    * See the attached detailed Office action for a list of the certified copies not received.

13)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application) since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.

    a) ☐ The translation of the foreign language provisional application has been received.

14)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121 since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)

2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)

3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____ .

4) ☐ Interview Summary (PTO-413) Paper No(s). _____ .

5) ☐ Notice of Informal Patent Application (PTO-152)

6) ☐ Other: .

DETAILED ACTION

Claim Rejections - 35 USC § 112

Claim 19 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite

for failing to particularly point out and distinctly claim the subject matter which applicant

regards as the invention.

Claim 19 cannot be depended on itself. For the purpose of examination, claim

19 is considered to be depending on independent claim 16.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all

obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set
> forth in section 102 of this title, if the differences between the subject matter sought to be patented and
> the prior art are such that the subject matter as a whole would have been obvious at the time the
> invention was made to a person having ordinary skill in the art to which said subject matter pertains.
> Patentability shall not be negatived by the manner in which the invention was made.

Claims 1-19 are rejected under 35 U.S.C. 103(a) as being unpatentable over

Tsuneyoshi et al (5,557,718) in view of Handa et al (5,303,338).

Regarding claim 9, Tsuneyoshi discloses (Figs. 1 and 2) a method to allow a

user to input and graph equations on a calculator comprising the steps of:

displaying an editing mode ("The expression input key 2c is a key for allowing a

switchover to an expression mode in which a mathematical expression for a graph to be

drawn on the display screen is set"). See column 5, lines 20-32; and column 6, lines

37-41. Thus, it is obvious to a person of ordinary skill in the art to recognize that the

graphic calculator of Tsuneyoshi is capable of entering the relational symbol and the constant for the mathematical expression since this is conventional in the art.

Tsuneyoshi fails to teach the step of graphing one or more inequalities in response to an input from the user.

However, Handa (5,303,338) from the same field of endeavor teaches (Figs. 1 and 3A-3F) a graphic calculator, which is capable of graphing one or more inequality equations in response to an input from the user. See column 1, lines 39-41; and column 2, lines 49-64. It is obvious to the person of ordinary skill in the art to use the method of graphing of a plurality of inequality equations, as taught by Handa, into the graphic calculator of Tsuneyoshi to provide a graphic calculator equipped with a graphic inequalities display function and an improved trace function.

Regarding claim 10, Tsuneyoshi further discloses ((Fig. 2) an activate/inactivate key (the clear key 2g).

Regarding claim 11, Tsuneyoshi further teaches the selection of line type to be displayed. See column 12, lines 20-25.

Regarding claim 12, since the method of graphing inequality equations of Handa is suggested to be used in the graphic calculator of Tsuneyoshi to provide a graphic calculator equipped with a graphic inequalities display function, it is obvious that different line type can be selected for different kind of graphs to provide a clear perception for the user to distinguish between different graphs overlaying on a single display screen.

Regarding claim 13, Tsuneyoshi discloses (Fig. 2) a cursor control keys (2h).

Regarding claims 14 and 15, the selection of the Y=Editor is known in the art. See the Applicant's specification, page 5, lines 20-25.

Regarding claim 1, Tsuneyoshi discloses (Figs. 1 and 2) a graphing calculator comprising:

a display screen (1); a cursor input device (2h); a key panel (2) having keys (cursor keys 2h) at least capable of selecting positions of the cursor on the display screen (column 5, lines 35-42); a processor (CPU 5) performing the following steps:

displaying an editing mode ("The expression input key 2c is a key for allowing a switchover to an expression mode in which a mathematical expression for a graph to be drawn on the display screen is set"). See column 5, lines 20-32; and column 6, lines 37-41. Thus, it is obvious to a person of ordinary skill in the art to recognize that the graphic calculator of Tsuneyoshi is capable of entering the relational symbol and the constant for the mathematical expression since this is conventional in the art.

Tsuneyoshi fails to teach the step of graphing one or more inequalities in response to an input from the user.

However, Handa (5,303,338) from the same field of endeavor teaches (Figs. 1 and 3A-3F) a graphic calculator, which is capable of graphing one or more inequality equations in response to an input from the user. See column 1, lines 39-41; and column 2, lines 49-64. It is obvious to the person of ordinary skill in the art to use the method of graphing of a plurality of inequality equations, as taught by Handa, into the graphic calculator of Tsuneyoshi to provide a graphic calculator equipped with a

graphic inequalities display function and an improved trace function. Tsuneyoshi further teaches the selection of line type to be displayed. See column 12, lines 20-25.

Regarding claim 2, Handa further discloses (Figs. 1 and 3A-3F) the displaying of the inequality symbols available for the user to select (the keys 1g-1k). Furthermore, the inequality symbols being displayed on a display screen is only an option, and it is not a critical function to the device.

Regarding claim 3, Tsuneyoshi further discloses ((Fig. 2) an activate/inactivate key (the clear key 2g).

Regarding claims 4-5, Tsuneyoshi further teaches the selection of different line types such as solid line and broken line to be displayed. See column 12, lines 20-25.

Since the method of graphing inequality equations of Handa is suggested to be used in the graphic calculator of Tsuneyoshi to provide a graphic calculator equipped with a graphic inequalities display function, it is obvious that different line type can be selected for different kind of graphs to provide a clear perception for the user to distinguish between different graphs overlaying on a single display screen.

Regarding claims 6-8, note the rejection as set forth above with respect to claims 4-5. Tsuneyoshi further teaches the selection of different line types such as solid line and broken line to be displayed. See column 12, lines 20-25.

Regarding claim 16, a computer based mathematics teaching tool comprising:

a display screen (1); a cursor input device (2h); a key panel (2) having keys (cursor keys 2h) at least capable of selecting positions of the cursor on the display screen (column 5, lines 35-42); a processor (CPU 5) performing the following steps:

displaying an editing mode ("The expression input key 2c is a key for allowing a switchover to an expression mode in which a mathematical expression for a graph to be drawn on the display screen is set"). See column 5, lines 20-32; and column 6, lines 37-41. Thus, it is obvious to a person of ordinary skill in the art to recognize that the graphic calculator of Tsuneyoshi is capable of entering the relational symbol and the constant for the mathematical expression since this is conventional in the art.

Tsuneyoshi fails to teach the step of graphing one or more inequalities in response to an input from the user.

However, Handa (5,303,338) from the same field of endeavor teaches (Figs. 1 and 3A-3F) a graphic calculator, which is capable of graphing one or more inequality equations in response to an input from the user. See column 1, lines 39-41; and column 2, lines 49-64. It is obvious to the person of ordinary skill in the art to use the method of graphing of a plurality of inequality equations, as taught by Handa, into the graphic calculator of Tsuneyoshi to provide a graphic calculator equipped with a graphic inequalities display function and an improved trace function. Tsuneyoshi further teaches the selection of line type to be displayed. See column 12, lines 20-25.

Regarding claim 17, Handa further discloses (Figs. 1 and 3A-3F) the displaying of the inequality symbols available for the user to select (the keys 1g-1k). Furthermore,

the inequality symbols being displayed on a display screen is only an option, and it is not a critical function to the device.

Regarding claims 18-19, Tsuneyoshi further teaches the selection of different line types such as solid line and broken line to be displayed. See column 12, lines 20-25.

Since the method of graphing inequality equations of Handa is suggested to be used in the graphic calculator of Tsuneyoshi to provide a graphic calculator equipped with a graphic inequalities display function, it is obvious that different line type can be selected for different kind of graphs to provide a clear perception for the user to distinguish between different graphs overlaying on a single display screen.

Conclusion

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

-Ikeda et al (5,712,656) disclose (Figs. 1 and 14) a graphic calculator having EDIT key.

Yoshino et al (5,058,009) disclose (Figs. 7A-7C) the editing of the variables and constants of the equation.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to LUU MATTHEW whose telephone number is (703) 305-4850. The examiner can normally be reached on 9 hrs.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, RAZAVI MICHAEL can be reached on (703) 305-4713. The fax phone

number for the organization where this application or proceeding is assigned is (703)

872-9314.

Any inquiry of a general nature or relating to the status of this application or

proceeding should be directed to the receptionist whose telephone number is (703) 305-

4700.

M. Luu
December 20, 2003   MATTHEW LUU
                                                                    PRIMARY EXAMINER